

ATTACHMENT A

AN ORDINANCE TO AMEND PROVISIONS OF THE UNIFIED DEVELOPMENT ORDINANCE REGULATING RIPARIAN BUFFERS

WHEREAS, the Durham County Board of Commissioners wishes to amend certain provisions regarding riparian buffers in the Unified Development Ordinance; and

WHEREAS, it is the objective of the Durham County Board of Commissioners to have the UDO promote the health, safety, and general welfare of the community;

NOW, THEREFORE, be it ordained that Article 3, Applications and Permits, Article 6, District Intensity Standards, Article 8, Environmental Protection, Article 15, Enforcement, and Article 16, Definitions, are amended to make the following changes:

SECTION 1

Modify Table of Contents, as set forth in the strikeouts and underlining below.

Article 8: Environmental Protection

[Sections 8.1 through 8.4 and 8.6 through 8.10 are omitted.]

Sec. 8.5 Riparian~~Stream~~ Buffer Protection Standards

SECTION 2

Modify Article 3, Applications and Permits, Section 3.5, Zoning Map Change, paragraph 3.5.6, Development Plan, paragraph D, Requirements, paragraph 5, Additional Commitments - Graphic, paragraph g; Section 3.6, Subdivision Review, paragraph 3.6.6, Preliminary Plat Requirements, paragraph C, Proposed Conditions, paragraph 6, and paragraph 3.6.7, Preliminary Plat Approval, paragraph A, Applicability, paragraph 1; Section 3.7, Site Plan Review, paragraph 3.7.1, Applicability, paragraph B, Types of Site Plans, paragraph 3, Major Site Plans, and paragraph 3.7.4, Site Plan Requirements, paragraph C, Proposed Conditions, paragraph 9; Section 3.8, Sedimentation and Erosion Control, paragraph 3.8.2, Application Requirements, paragraph A, Erosion and Sedimentation Control Plan, paragraph 2; Section 3.15, Variance, paragraph 3.15.1, Applicability, paragraph 3.15.9, Watershed Protection, and paragraph 3.15.10, Environmental Protection; and Sec. 3.22, Floodplain Development Permit, paragraph 3.22.3, Base Flood Elevations, as set forth in the strikeouts and underlining below.

Sec. 3.5 Zoning Map Change

3.5.6 Development Plan

[Paragraphs A through C and E through G are omitted.]

D. Requirements

A development plan shall comply with all applicable laws and guidelines. Requirements under this section shall consist of the following, which may be supplemented by guidelines of the Planning Department.

[Paragraphs 1 through 4 and 6 through 9 are omitted.]

5. Additional Commitments - Graphic

A development plan may depict additional proposed elements, including but not limited to the following, in graphic form without side notes. Labels and descriptive information shall be located within the graphic depiction. Such elements shall become commitments.

[Paragraphs a through f, h and i are omitted.]

- g. General location and types of stormwater facilities and mechanisms for complying with paragraph 8.5.5, Diffuse Flow Requirements.

Sec. 3.6 Subdivision Review

[Paragraphs 3.6.1 through 3.6.5, 3.6.8 and 3.6.9 are omitted.]

3.6.6 Preliminary Plat Requirements

[Paragraphs A, B and D are omitted.]

C. Proposed Conditions

[Paragraphs 1 through 5 and 7 through 10 are omitted.]

- 6. *Storm Drainage:* location and description of temporary and permanent storm drainage pipes and swales; amount of impervious surface; provisions for erosion and sedimentation controls, including retention and detention facilities; mechanisms for complying with paragraph 8.5.5, Diffuse Flow Requirements; as well as professionally sealed engineering calculations used in the design.

3.6.7 Preliminary Plat Approval

A. Applicability

- 1. A preliminary plat shall be required for all subdivision of land within the jurisdiction of this Ordinance for developments of more than six lots. A preliminary plat is optional for development of six lots or less with no public dedication of land, no streets, no utility extensions, no required diffuse flow mechanisms, and no required stormwater management facilities.

[Paragraphs 2 and 3 are omitted.]

[Paragraphs B through H are omitted.]

Sec. 3.7 Site Plan Review

3.7.1 Applicability

[Paragraphs A, C and D are omitted.]

B. Types of Site Plans

[Paragraphs 1 and 2 are omitted.]

3. Major Site Plans

a. Criteria

Projects shall be considered major site plans if:

- (1) They request modifications of a standard established in this Ordinance that requires governing board approval;
- (2) They involve the development of any use that requires the issuance of a major special use permit; ~~or~~
- (3) They are located in a Watershed protection Overlay Critical Area (A), as defined in Sec. 4.11, Watershed Protection Overlay, with impervious surface that exceeds the maximum permitted by the Low Density Option under Sec. 8.7, Watershed Protection Overlay Standards; or
- (4) They include any use that is classified as Allowable with Mitigation under paragraph 8.5.10, Uses.

[Paragraphs b and c are omitted.]

[Paragraphs 3.7.2, 3.7.3, and 3.7.5 through 3.7.16 are omitted.]

3.7.4 Site Plan Requirements

[First paragraph is omitted.]

[Paragraphs A, B and D are omitted.]

C. Proposed Conditions

[Paragraphs 1 through 8 and 10 through 12 are omitted.]

9. *Storm Drainage:* location and description of temporary and permanent storm drainage pipes and swales; amount of impervious surface; mechanisms for complying with paragraph 8.5.5, Diffuse Flow Requirements; as well as professionally sealed engineering calculations used in the design.

Sec. 3.8 Sedimentation and Erosion Control

[Paragraphs 3.8.1 and 3.8.3 through 3.8.10 are omitted.]

3.8.2 Application Requirements

A. Erosion and Sedimentation Control Plan

[Paragraphs 1 and 3 through 5 are omitted.]

2. A sedimentation and erosion control plan shall contain ~~site~~engineering drawings, vicinity maps, assumptions, calculations, narrative statements, and a construction sequence as needed to adequately describe the proposed development and the measures proposed to comply with the requirements of this Article.

[Paragraph B is omitted.]

Sec. 3.15 Variance

3.15.1 Applicability

- A. The Board of Adjustment may vary certain requirements of this Ordinance, in harmony with the general purpose of these regulations, where special conditions applicable to the property in question would make the strict enforcement of the regulations impractical or result in a hardship in making reasonable use of the property. Despite the above and pursuant to 15A NCAC 02B .0233 and 15A NCAC 02B .0267, a variance from the requirements of Sec. 8.5, Riparian Buffer Protection Standards, including where incorporated by reference, shall be granted only by the North Carolina Environmental Management Commission or the City or County as appropriate pursuant to paragraph 8.5.13, Variances.

[Paragraph B and the illustration are omitted.]

[Paragraphs 3.15.2 through 3.15.8 are omitted.]

3.15.9 Watershed Protection

- A. A request for a variance from any requirement of Sec. 8.7, Watershed Protection Overlay Standards, that violates any provision in Title 15 NCAC 2B, Sections .0100, .0200, and .0300, as amended, shall be first heard by the Board of Adjustment in accordance with this section and after notification of the appropriate governing body, except that a request for a variance from the requirements of Sec. 8.5, Riparian Buffer Protection Standards, as referenced by paragraph 8.7.2E, Riparian Buffers, shall proceed under paragraph 8.5.13, Variances. A recommendation from the Board of Adjustment for a variance shall constitute a request by the local government for a

variance from the North Carolina Environmental Management Commission. Such variances shall be considered “major significant variances” in accordance with Title 15A NCAC .0104(r). ~~The appropriate governing body shall be notified of the variance request.~~

- B. For all variance requests from Sec. 8.7, Watershed Protection Overlay Standards, except those from Sec. 8.5, Riparian Buffer Protection Standards, as referenced therein, the local government with jurisdiction shall notify and allow reasonable comment period for all local governments having jurisdiction within the watershed area of the water supply source and the entity using the water supply for consumption.
- C. The Planning Director, or designee, shall keep a record of variances to Sec. 8.7, Watershed Protection Overlay Standards. This record of variances, not including those from Sec. 8.5, Riparian Buffer Protection Standards, as referenced in Sec. 8.7, shall be submitted to the ~~Supervisor of the Classification and Standards Group, Division of Water Quality Section, Division of Environmental Management,~~ North Carolina Department of Environmental and Natural Resources by January 1st of each year. The record shall provide a description of each project receiving a variance and the reasons for granting a variance. The record of variances from Sec. 8.5 shall be included in the annual report to the North Carolina Division of Water Quality summarizing activities implementing the requirements of that section.

3.15.10 Environmental Protection

- A. At the request of a property owner, and except as otherwise specified in this ordinance, the Board of Adjustment may vary the requirements of Article 8, Environmental Protection Standards, in accordance with the procedures of this section ~~and Interpretations by the Board of Adjustment~~. The Board of Adjustment shall not vary the requirements of Sec. 8.4, Floodplain and Flood Damage Protection Standards or the requirements of Sec. 8.5, Riparian Buffer Protection Standards. In addition to the findings required in Sec. 3.15.8, Findings, the Board of Adjustment in granting any variance shall make the following additional findings.

[Paragraphs 1 through 4 are omitted.]

[Paragraph B is omitted.]

[Paragraph 3.15.11 is omitted.]

Sec. 3.22 Floodplain Development Permit

3.22.3 Base Flood Elevations

[Paragraphs A and B are omitted.]

- C. **When Base Flood has not been Determined**

[Paragraph 1 is omitted.]

2. On small streams where no base flood data has been provided, no encroachments, including fill, new construction, substantial improvements or new development, shall be permitted within the setbacks established in Sec. 8.5, RiparianStream Buffer Protection Standards, or Sec. 8.7, Watershed-Overlay Protection Overlay Standards, or 20 feet each side from top of bank, or five times the width of the stream, whichever is greatester.

SECTION 3

Modify Sec. 6.11, Planned Districts, paragraph 6.11.3, Planned Density Residential (PDR), paragraph C, Intensity, paragraph 1, Residential Density, as set forth in the strikeouts and underlining below.

Sec. 6.11 Planned Districts

6.11.3 Planned Density Residential (PDR)

[Paragraphs A, B, and D through I are omitted.]

C. Intensity

1. Residential Density

The specific maximum density in units per acre, other than the areas proposed for nonresidential development and areas precluded from consideration for density in Secs. 8.4.4, Development in Special Flood Hazard Areas and Future Conditions Flood Hazard Areas, 8.5.9, Lots and Density~~8.5.7, Density Credits~~, and 8.8.4, Density Credits, shall be included in the application. The allowable density shall be consistent with the land use designation shown in the Comprehensive Plan.

[Paragraphs 2 and 3 are omitted.]

SECTION 4

Modify Section 8.5, Stream Buffer Protection Standards, paragraph 8.5.1, Purpose, paragraph 8.5.2, Types of Stream Buffers, paragraph 8.5.3, Pond Removal, paragraph 8.5.4, Stream Buffer Size, paragraph 8.5.5, Stream Buffer Use Limitations, paragraph 8.5.6, Piping Streams, and paragraph 8.5.7, Density Credits, paragraph 8.5.8, Piping Streams, and add new paragraphs 8.5.2, Applicability, 8.5.3, Definitions, 8.5.4, Riparian Buffers Protected, 8.5.5, Diffuse Flow Requirements, 8.5.6, Maps and On-Site Determinations, 8.5.7, Existing Use Exemption, 8.5.9, Lots and Density, 8.5.10, Uses, 8.5.11, No Practical Alternatives/ Authorization Certificate, 8.5.12, Mitigation, and 8.5.13, Variances, as set forth in the strikeouts and underlining below.

Sec. 8.5 RiparianStream Buffer Protection Standards

8.5.1 Purpose

The primary purpose of ~~the stream buffer protection standards~~Sec. 8.5, Riparian Buffer Protection Standards (which may be referred to herein as “this section”) is to maintain land adjacent to ~~stream~~surface waters in a vegetated state in order to enhance and maintain water quality, protect stream channel wetlands, minimize stormwater runoff, reduce sedimentation and erosion, provide nutrient removal, conserve plant and wildlife habitat and protect wildlife movement corridors.

***Commentary:** Note that streams may have additional stream buffer requirements in accordance with Sec. 8.7, Watershed Protection Overlay Standards, Section 401 Water Quality Certification administered by the North Carolina Division of Water Quality, and related requirements within the jurisdiction of the US Environmental Protection Agency and US Army Corps of Engineers.*

8.5.2 — Types of Stream Buffers

- ~~A. The stream buffer protection standards shall apply to intermittent streams, perennial streams, and naturally occurring ponds and lakes. Stream buffers shall be clearly indicated on all development plans, site plans, preliminary plats and final plats.~~
- ~~B. Where maps show a difference in stream type for a particular reach of stream, the map that shows the greater level of stream protection shall apply.~~
- ~~C. Relief from buffer requirements in the Neuse River Basin may be allowed when surface waters are not present in accordance with the provisions of 15A NCAC 02B.0233(3)(a) as determined by the North Carolina Department of Environment and Natural Resources (NCDENR). The City Public Works Director, County Engineer, or designees, as appropriate, may allow relief from buffer requirements outside the Neuse River Basin pursuant to the applicable City or County standards and procedures.~~

8.5.3 — Pond Removal

***Commentary:** Note that ponds that appear on USGS or NRCS maps may be wetlands and may require approval from the North Carolina Department of Environment and Natural Resources and the US Army Corps of Engineers prior to being drained.*

~~If a property owner or applicant proposes to remove a pond and such removal is approved by the City Public Works Director, County Engineer, or designees, a stream buffer of the size required on the stream immediately downstream of the pond shall be maintained along the portion of the stream located where the pond is to be removed.~~

8.5.4 — Stream Buffer Size

~~Stream buffers shall apply on each side of the stream and shall begin at the most landward limit of the top of the bank perpendicular to the direction of stream flow. Stream buffers for both intermittent and perennial streams shall be a minimum of 50 feet in width.~~

8.5.5 Stream Buffer Use Limitations

- A.** ~~Land within the stream buffer shall not serve to meet minimum lot size requirements, except in the Rural Tier and on property zoned RR or RS-20, in the Suburban Tier, where at least 50% of the required lot area is outside the stream buffer.~~
- B.** ~~Buildings and other features that require grading and construction shall be set back at least ten feet from the edge of the stream buffer.~~
- C.** ~~To avoid a loss of effectiveness in protecting streams, the stream buffer shall remain in natural undisturbed vegetation in the Suburban and Rural Tiers, except as provided by this section or allowed pursuant to a variance approved by the Board of Adjustment in accordance with Sec. 3.15, Variances. Except in the Neuse Basin, where the 30 feet closest to the stream shall remain in undisturbed vegetation, clearing and revegetating stream buffers in the Suburban and Rural Tiers for the purposes of improving pollutant removal efficiency may be permitted based upon a conclusive finding by the Development Review Board that such efficiency will be improved.~~
- D.** ~~Except in the Neuse Basin, where the 30 feet closest to the stream shall remain in undisturbed vegetation, stream buffers within the Urban, Compact Neighborhood, and Downtown Tiers may be landscaped rather than left in an undisturbed state, at the discretion of the property owner in accordance with an approved revegetation plan.~~
- E.** ~~Any use allowed by this section shall be designed and constructed to minimize the amount of intrusion into the stream buffer and to minimize clearing, grading, erosion and water quality degradation.~~
- F.** ~~Crossings by streets, driveways, railroads, recreational features, intakes, docks, utilities, bridges or other facilities shall be allowed provided that they are designed to minimize the amount of intrusion into the stream buffer. Such facilities may run generally within and parallel to the stream buffer only where no alternative location is practical and when their design minimizes the amount of intrusion of the stream buffer.~~
- G.** ~~Stormwater control structures and temporary erosion control structures shall be considered utilities for the purposes of this section and may be allowed in stream buffers, provided that:~~
 - 1.** ~~The property owner or applicant demonstrates to the satisfaction of the City Public Works Director or County Engineer, or their designees, as appropriate, that such facilities cannot be practicably located outside of the stream buffer, and that any proposed stormwater control structure is sited and designed to minimize disturbance of the stream and stream buffer. Siting stormwater control structures away from the stream channel shall be considered preferable to siting such structures in the stream channel;~~
 - 2.** ~~Alternate methods of stormwater and erosion control shall be considered prior to approval of such structures in the stream buffers; and~~

- ~~3. A vegetated buffer of a width determined by the City Public Works Director or the County Engineer, or their designees, as appropriate, may be required around the stormwater control structures.~~
- ~~H. For development on lots of record created prior to January 1, 1997, septic system drain field repair areas may be allowed in stream buffers, provided that:~~
 - ~~1. The intrusion into the stream buffer is the minimum necessary;~~
 - ~~2. The intrusion shall not result in an undisturbed stream buffer less than 30 feet; and~~
 - ~~3. The property owner or applicant demonstrates to the satisfaction of the Durham County Health Department that the repair area cannot be located outside of the stream buffer.~~
- ~~I. Sanitary sewer lines, on an alignment generally parallel to the stream, may be allowed in stream buffers, provided that:~~
 - ~~1. The property owner or applicant demonstrates to the satisfaction of the City Public Works Director or the County Engineer, or their designees, as appropriate, that the lines cannot be practicably located outside of the stream buffer;~~
 - ~~2. Design and construction specifications minimize damage to the stream and the possibility of line leakage; and,~~
 - ~~3. The line is generally located at least 35 feet from the top of the stream bank and the easement is no closer than 20 feet from the top of the bank.~~
- ~~J. Stream buffers may be used for passive recreational activities, such as trails, provided that service facilities for such activities, including but not limited to parking, picnicking and sanitary facilities, are located outside of the stream buffer.~~
- ~~K. Site plan approval by the Development Review Board shall be required for any of the stream buffer intrusions described above. When any of the activities described above involves land clearing, the cleared area shall be revegetated in a manner described on the site plan. However, where a site plan is not required by any other provision of this Ordinance, the County Engineer, or designee, is authorized to approve plans for erosion control structures in stream buffers.~~

8.5.2 Applicability

This section shall apply to any person or entity conducting activities within the City or County of Durham, except where such activities are otherwise regulated by the State of North Carolina or the United States. Outside of the Neuse River Basin, activities otherwise regulated by the State include forest harvesting and agricultural activities, activities conducted by a local, state, or federal government, and activities under multiple jurisdictions except where such multiple jurisdictions are the City and County of Durham exclusively. This section shall supersede all locally implemented buffer requirements stated in 15A NCAC 02B .0214 through .0216 as applied to WS-II, WS-III, and WS-IV waters in the Jordan watershed. Where any requirement of

this section conflicts with any other valid law, the most stringent requirement shall apply.

The requirements of this section shall apply in all cases, including where State standards are less stringent. Review and approval by the City or County is always required, except in the case of an exempt use, and shall occur pursuant to the applicable process in each case (e.g., Preliminary Plat, Major Site Plan, etc.). Within the Neuse River Basin, final review by the City or County shall occur after any State action is completed.

8.5.3 Definitions

Within the Neuse River Basin, the definitions contained or referenced in 15A NCAC 02B .0233 and .0242 shall apply to this section. Outside of the Neuse River Basin, the definitions contained or referenced in 15A NCAC 02B .0263, .0267, and .0268 shall apply to this section. Such definitions shall supersede any conflicting UDO definition for purposes of this section.

8.5.4 Riparian Buffers Protected

A. Regulated Activities. This section shall apply to any activity conducted within any riparian buffer, and to any activity conducted outside of any riparian buffer that has hydrologic impacts upon that buffer in violation of the diffuse flow requirements of paragraph 8.5.5, Diffuse Flow Requirements. There is no disturbed area minimum for regulated activities and they include but are not limited to activities conducted pursuant to building permits. As stated in Sec. 8.5.2, Applicability, compliance with this entire section is required even where State standards are less stringent. Within the Neuse River Basin, final review by the City or County shall occur after any State action is completed.

B. Buffers Protected

1. General Riparian Buffers. Riparian buffers as depicted on the table below shall be required adjacent to the following surface waters: intermittent streams; perennial streams; modified natural streams; lakes; and ponds including beaver ponds. The table includes the additional buffer width required for certain surface waters in watershed protection overlays. It does not include the 10-foot setback required under Sec. 8.5.10C below. A lake or pond shall receive the same buffer as the stream to which it is connected at the point of initial connection. A gap of 300 feet or less in a stream, as determined by the City or County, shall receive the same buffer as the upstream portion of such stream.

***Commentary:** UDO Sec. 16.3, Defined Terms, defines “adjacent” as “[p]roperty abutting directly on the boundary of, touching, or sharing a common point.” The applicable state rules define “modified natural stream” as “an on-site channelization*

or relocation of a stream channel and subsequent relocation of the intermittent or perennial flow as evidenced by topographic alterations in the immediate watershed. A modified natural stream must have the typical biological, hydrological, and physical characteristics commonly associated with the conveyance of water.”

Key:

P – Perennial

I – Intermittent

NA – Not Applicable because not located therein

M/LR-A - Lake Michie/Little River Critical Area

M/LR-B - Lake Michie/Little River Protected Area

E-A – Eno River Critical Area

E-B – Eno River Protected Area

F/J-A – Falls/Jordan Critical Area

F/J-B – Falls Jordan Protected Area

<u>Tier</u>	<u>Watershed Protection Overlay</u>													
	<u>None</u>		<u>M/LR-A</u>		<u>M/LR-B</u>		<u>E-A</u>		<u>E-B</u>		<u>F/J-A</u>		<u>F/J-B</u>	
<u>Downtown</u>	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<u>Stream Type</u>	<u>P</u>	<u>I</u>	<u>P</u>	<u>I</u>	<u>P</u>	<u>I</u>	<u>P</u>	<u>I</u>	<u>P</u>	<u>I</u>	<u>P</u>	<u>I</u>	<u>P</u>	<u>I</u>
<u>Zone A (Inner)</u>	<u>50</u>	<u>50</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>
<u>Zone B (Outer)</u>	<u>0</u>	<u>0</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>
<u>Total</u>	<u>50</u>	<u>50</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>
<u>Compact Neighborhood</u>	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<u>Stream Type</u>	<u>P</u>	<u>I</u>	<u>P</u>	<u>I</u>	<u>P</u>	<u>I</u>	<u>P</u>	<u>I</u>	<u>P</u>	<u>I</u>	<u>P</u>	<u>I</u>	<u>P</u>	<u>I</u>
<u>Zone A (Inner)</u>	<u>50</u>	<u>50</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>
<u>Zone B (Outer)</u>	<u>0</u>	<u>0</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>
<u>Total</u>	<u>50</u>	<u>50</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>
<u>Urban</u>	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<u>Stream Type</u>	<u>P</u>	<u>I</u>	<u>P</u>	<u>I</u>	<u>P</u>	<u>I</u>	<u>P</u>	<u>I</u>	<u>P</u>	<u>I</u>	<u>P</u>	<u>I</u>	<u>P</u>	<u>I</u>
<u>Zone A (Inner)</u>	<u>50</u>	<u>50</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>100</u>	<u>50¹</u>	<u>NA</u>	<u>NA</u>	<u>100</u>	<u>50¹</u>
<u>Zone B (Outer)</u>	<u>0</u>	<u>0</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>0</u>	<u>0</u>	<u>NA</u>	<u>NA</u>	<u>0</u>	<u>0</u>
<u>Total</u>	<u>50</u>	<u>50</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>100</u>	<u>50¹</u>	<u>NA</u>	<u>NA</u>	<u>100</u>	<u>50¹</u>
<u>Suburban</u>	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<u>Stream Type</u>	<u>P</u>	<u>I</u>	<u>P</u>	<u>I</u>	<u>P</u>	<u>I</u>	<u>P</u>	<u>I</u>	<u>P</u>	<u>I</u>	<u>P</u>	<u>I</u>	<u>P</u>	<u>I</u>
<u>Zone A (Inner)</u>	<u>75</u>	<u>75</u>	<u>150</u>	<u>75</u>	<u>150</u>	<u>75</u>	<u>150</u>	<u>75</u>	<u>100</u>	<u>75¹</u>	<u>150</u>	<u>100</u>	<u>100</u>	<u>75¹</u>
<u>Zone B (Outer)</u>	<u>25</u>	<u>25</u>	<u>0</u>	<u>25</u>	<u>0</u>	<u>25</u>	<u>0</u>	<u>25</u>	<u>0</u>	<u>25¹</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>25¹</u>
<u>Total</u>	<u>100</u>	<u>100</u>	<u>150</u>	<u>100</u>	<u>150</u>	<u>100</u>	<u>150</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>150</u>	<u>100</u>	<u>100</u>	<u>100</u>
<u>Rural</u>	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<u>Stream Type</u>	<u>P</u>	<u>I</u>	<u>P</u>	<u>I</u>	<u>P</u>	<u>I</u>	<u>P</u>	<u>I</u>	<u>P</u>	<u>I</u>	<u>P</u>	<u>I</u>	<u>P</u>	<u>I</u>
<u>Zone A (Inner)</u>	<u>75</u>	<u>75</u>	<u>150</u>	<u>75</u>	<u>150</u>	<u>75</u>	<u>NA</u>	<u>NA</u>	<u>100</u>	<u>75¹</u>	<u>150</u>	<u>100</u>	<u>100</u>	<u>75¹</u>

Zone B (Outer)	<u>25</u>	<u>25</u>	<u>0</u>	<u>25</u>	<u>0</u>	<u>25</u>	<u>NA</u>	<u>NA</u>	<u>0</u>	<u>25¹</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>25¹</u>
Total	<u>100</u>	<u>100</u>	<u>150</u>	<u>100</u>	<u>150</u>	<u>100</u>	<u>NA</u>	<u>NA</u>	<u>100</u>	<u>100</u>	<u>150</u>	<u>100</u>	<u>100</u>	<u>100</u>

¹Zone A stream buffer minimum of 100 feet, with no Zone B, if a high density option is utilized per Sec. 8.7.2B.1.

2. Buffer Zones. Zones A and B depicted in the table are defined as follows:

- a. Zone A shall be the inner zone, or the only zone where no Zone B exists. It shall begin at the top of bank or normal water level as described in paragraph C, Buffer Measurement, below and consist of a vegetated area that is undisturbed except for uses authorized under paragraph 8.5.10, Uses; and
- b. Zone B shall be an outer zone adjacent to Zone A and consist of a stable, vegetated area that is 25 feet wide and undisturbed except for uses authorized under paragraph 8.5.10, Uses. Grading and revegetating in Zone B is allowed provided that the health of the vegetation in Zone A is not compromised.
- c. The outer 20 feet of a 50-foot-wide riparian buffer in the Urban, Compact Neighborhood, or Downtown Tier that is not located in a watershed protection overlay may be landscaped in accordance with an approved revegetation plan. Such 50-foot-wide buffer is otherwise considered Zone A for all purposes.

3. Riparian Reservoir Buffers. Riparian buffers shall be required adjacent to reservoirs pursuant to Sec. 8.6, Water Supply Reservoir Buffer.

4. Riparian Wetland Buffers. Riparian buffers shall be required adjacent to wetlands pursuant to Sec. 8.9, Wetlands Protection Standards.

5. Wetlands adjacent to, or within 50 feet of, surface waters shall be considered part of the riparian buffers but are regulated pursuant to 15A NCAC 2B .0230 and .0231, 15A NCAC 2H .0500, 15A NCAC 2H .1300, and Sections 401 and 404 of the Federal Water Pollution Control Act.

C. Buffer Measurement. Riparian buffers shall be measured as follows:

- 1.** For intermittent and perennial streams, begin at the top of the bank and extend landward the required distance on all sides of the surface water, measured horizontally on a line perpendicular to a vertical line marking the top of the bank;
- 2.** For ponds, lakes and reservoirs located within a natural drainage way, begin at the normal water level and extend landward the required distance, measured horizontally on a line perpendicular to a vertical line marking the normal water level;
- 3.** If a buffer has two zones, Zone A shall be measured as stated above and Zone B shall begin at the outer edge of Zone A and extend landward the required distance

as measured horizontally on a line perpendicular to a vertical line marking the top of the bank for a stream or the normal water level for a pond, lake, or reservoir;

4. Where an intermittent or perennial stream begins or ends, including but not limited to when it goes underground, enters or exits a culvert, or enters or exits a wetland, begin at the top of the bank and extend landward the required distance in a radius around the beginning or end; and

***Commentary:** The radius requirement does not apply to a continuous stream that flows through a culvert within an existing stream buffer.*

5. Where an intermittent, perennial, or modified natural stream contains a gap of 300 feet or less, as determined by the City or County, extend the upstream buffer in a straight line through the gap, or in an alternative manner if approved by the Planning Director or designee, until it meets the downstream buffer.

D. Buffer Identification.

1. Riparian buffers shall be clearly indicated on all development plans, site plans, preliminary plats, final plats, sedimentation and erosion control plans, any other plans required before, during, or after construction, and any other documents as required under applicable law or policy.
2. Signs or other mechanisms that clearly demarcate riparian buffer boundaries shall be required for all new development or redevelopment.
 - a. Temporary signs shall be installed before clearing and grading begins and maintained until permanent signs are installed. Tree save or silt fencing may be used in lieu of temporary signs with prior approval from the City or County as appropriate.
 - b. Permanent signs shall be installed prior to issuance of certificate of occupancy and maintained in perpetuity.
 - c. All signs shall be posted at intervals of one per parcel or every 50 feet, whichever is less.
 - d. Each sign shall be at least 4" by 6" in size, shall face away from the buffer, and shall read "Riparian Buffer – Do Not Disturb Except as Authorized by the City [County] of Durham".
 - e. All signs must be placed on metal or wood posts installed securely in the ground, except that permanent signs may be placed on permanent fencing along the buffer boundary. If wood posts are used they must be at least 2" x 2" in size and be made of treated wood. Posts must extend a minimum of three feet above ground and be sunk at least two feet below ground.

8.5.5 Diffuse Flow Requirements

Diffuse flow shall be maintained in riparian buffers by dispersing concentrated flow prior to its entry into a buffer and reestablishing vegetation as listed below. These requirements apply to all development, including development that does not propose to impact or conduct an activity within a riparian buffer.

- A. Concentrated runoff from new ditches or man-made conveyances shall be converted to diffuse flow at non-erosive velocities before the runoff enters a riparian buffer except as authorized under paragraph 8.5.10, Uses.
- B. Corrective action to restore diffuse flow shall be taken as necessary and shall be designed to impede the formation of erosion gullies.
- C. New stormwater conveyances including drainage ditches, roadside ditches, and stormwater BMPs shall not be allowed in or through riparian buffers except as authorized under paragraph 8.5.10, Uses.

8.5.6 Maps and On-Site Determinations

- A. **Maps.** All of the following maps shall be used to identify surface water subject to the requirements of this section:
 - 1. The most recent version of the soil survey map prepared by the Natural Resources Conservation Service of the United States Department of Agriculture, which means the most recent hard copy paper bound map or CD-ROM or PDF of such map; and
 - 2. The most recent version of the 1:24,000 scale (7.5 minute) quadrangle topographic map prepared by the United States Geologic Survey (USGS); and
 - 3. Outside of the Neuse River Basin, any map approved by the Geographic Information Coordinating Council, the North Carolina Environmental Management Commission and both governing bodies as more accurate than the maps listed in paragraphs 1 and 2 above. However, such map shall not be used for buffer delineation on projects that are existing and ongoing under Sec. 8.5.7, Existing Use Exemption.

Surface water shall be deemed present if it is at least approximately shown on any map. If any surface water is depicted differently on different maps, the most restrictive depiction shall apply.

B. On-Site Determinations

- 1. **Within the Neuse River Basin.** A landowner or other affected party who believes that surface water is inaccurately depicted shall consult the North Carolina Division of Water Quality (Division) and may request an on-site determination by the Division.

2. Outside of the Neuse River Basin.

- a.** The Division or another party may request an on-site determination by the City or County as appropriate of the specific origination point of a stream where it is in question.
 - b.** A landowner or other affected party, including the Division, who believes that one or more maps inaccurately depict, or omit based on site-specific evidence, surface water shall consult the City or County as appropriate and may request an on-site determination by the City or County.
 - c.** When an on-site determination is requested, a City or County representative, or other party authorized or accepted by the City or County, who has successfully completed the Division's *Surface Water Identification Training Certification* course, its successor, or other equivalent training curriculum approved by the Division, shall make the on-site determination following submission of any fees, information or documents required by the City or County. An origination point shall be established using the latest version of the Division publication, *Identification Methods for the Origins of Intermittent and Perennial Streams*.
 - d.** A City or County representative, or other party authorized or accepted by the City or County, who has successfully completed the training required above may also make either type of on-site determination absent an outside consultation or request.
 - e.** An on-site determination shall be valid for five years from the date of the determination unless specified otherwise therein.
- 3.** Surface water shown on a map shall be exempt from Sec. 8.5, Riparian Buffer Protection Standards, if it is determined on site to be: 1) a manmade pond or lake located outside of a natural drainage way, meaning the pond or lake is not fed by, and has no direct discharge to, an intermittent or perennial stream; 2) an ephemeral stream; 3) not present on the ground, except for any stream gap of 300 feet or less; or 4) a ditch or other manmade conveyance other than a modified natural stream unless constructed for navigation or boat access.
- 4 .** Surface water not shown on a map shall be governed by Sec. 8.5, Riparian Buffer Protection Standards, if it is determined on site to be: 1) a pond or lake located in a natural drainage way, meaning the pond or lake is fed by and has a direct discharge to an intermittent or perennial stream; 2) a perennial stream, including any gap of 300 feet or less; 3) an intermittent stream, including any gap of 300 feet or less; or 4) a modified natural stream, including any gap of 300 feet or less.

5. Despite the provisions of Section 2.4, Board of Adjustment, any dispute shall be referred to the Division Director c/o the 401 Oversight Express Permitting Unit, or its successor, in writing. The Director's determination is subject to review as provided in Articles 3 and 4 of G.S. 150B.

8.5.7 Existing Use Exemption

- A. **General.** This section shall not apply to the portion of a riparian buffer occupied by the footprint of a legal existing and ongoing use. An existing and ongoing use is a use that was present within the riparian buffer as of July 22, 1997 within the Neuse River Basin, or as the effective date of this section outside of the Neuse River Basin, and has continued to exist since that time. Such uses may include but are not limited to agriculture, buildings, industrial facilities, commercial areas, transportation facilities, maintained lawns, utility lines and on-site sanitary sewage systems. A use that converts from an existing and ongoing use to another use shall no longer be exempt. Conversion includes but is not limited to changing an agricultural operation to non-agricultural use, failing to maintain a lawn, or failing to meet the criteria specified below for activities allowed.
- B. **Exemption Maintained.** The following activities do not convert an existing and ongoing use to another use:
 1. Activities necessary to maintain a use provided that no impervious surface is added to the riparian buffer where it did not exist as of the applicable date, existing diffuse flow is maintained, and either 1) outside of the Neuse River Basin, the site remains similarly vegetated, or 2) within the Neuse River Basin, no additional vegetation is removed from Zone A except that grazed or trampled by livestock.
 2. Grading and revegetating Zone B of a 100-foot-wide riparian buffer, or the outer 20 feet of a 50-foot-wide riparian buffer in the Urban, Compact Neighborhood, or Downtown Tier that is not located in a watershed protection overlay, provided that the health of the vegetation in Zone A or the inner 30 feet, as applicable, is not compromised, the ground is stabilized, and existing diffuse flow is maintained.
 3. Outside of the Neuse River Basin, change of ownership through purchase or inheritance;
- C. **Outside of the Neuse River Basin.** Outside of the Neuse River Basin, a project that meets at least one of the following criteria is also existing and ongoing:
 1. The project requires a 401 Certification and 404 Permit and they were issued prior to the effective date of this section;

2. The project requires a state permit (e.g., landfill, National Pollutant Discharge Elimination System (NPDES) wastewater discharge, land application of residuals, road construction activity), has started construction or is under contract to start construction, and received all required state permits and certifications prior to the effective date of this section;
3. The project is reviewed through the Clean Water Act Section 404/National Environmental Policy Act Merger 01 Process or its immediate successor and reached agreement with the NC Department of Environment and Natural Resources on avoidance and minimization prior to the effective date of this section; or
4. The project can avoid review under the Clean Water Act Section 404/National Environmental Policy Act Merger 01 Process or its immediate successor due to a Finding of No Significant Impact and received written approval from the City or County as appropriate prior to the effective date of this section.

8.5.68 Piping Streams

Piping of streams is prohibited except where necessary to accomplish a use that is authorized under paragraph 8.5.10, Uses, and approved as required.

Commentary: Approved piping is a use within an existing buffer and the buffer remains in effect. There is no gap in the buffer, so buffer requirements apply along the piped portion of the stream.

A. ~~Perennial Streams~~

~~Except in the Rural Tier, perennial streams may be piped, thereby exempting the piped section of the stream from stream buffer requirements, only when allowed by Sec. 8.5.5F or when the Board of Adjustment issues a variance in accordance with the provisions of Sec. 3.15, Variances, and makes the following findings in addition to the findings required therein: in Sec. 3.15.10, Environmental Protection.~~

- ~~1. The site plan proposing perennial stream piping includes features on the site, such as best management practices, that provide water quality benefits at least equal to those of the stream buffer; and~~
- ~~2. The proposed perennial stream piping is not substantially in conflict with the other objectives of this section.~~

B. ~~Intermittent Streams~~

~~Except in the Rural Tier, intermittent streams may be piped, thereby exempting the piped section of the stream from stream buffer requirements, only when the Development Review Board, or, for projects that do not require a site plan by any other provision of this ordinance, the City Public Works Director or County Engineer, or their designee, as appropriate, determines that:~~

- ~~1. The site plan proposing intermittent stream piping includes features on the site, such as best management practices, that provide water quality benefits at least equal to those of the stream buffer; and~~

- ~~2. The proposed intermittent stream piping is not substantially in conflict with the other objectives of this section.~~
- ~~C. Where stream piping is approved, a vegetated buffer area or other device approved by the City Public Works Director or County Engineer, or their designee, as appropriate, shall be provided at any intake structure. All buffers and physical improvements related to the stream piping shall be located entirely on the site or on easements adjacent to the site.~~

8.5.7 Density Credits

~~No credit shall be allowed for land within stream buffers, except in the RR District, where density credits may be given for stream buffers in conservation subdivisions pursuant to Sec. 6.2.4, Conservation Subdivision.~~

8.5.9 Lots and Density

- A. Land within Zone A of a riparian buffer shall be located on common or public property and shall not serve to meet minimum lot size requirements.
- B. Where a riparian buffer contains a Zone B, density credit shall be allowed for the land within the outer 50 feet of the total buffer, except that density credit shall be allowed for all land within riparian buffers in conservation subdivisions pursuant to paragraph 6.2.4, Conservation Subdivision.

8.5.10 Uses

- A. As stated in Sec. 8.5.2, Applicability, compliance with this entire section is required even where State standards are less stringent. Within the Neuse River Basin, final review by the City or County shall occur after any State action is completed.
- B. No new clearing, grading, or development shall take place nor shall any new building permits be issued in violation of this section. Parties subject to this section shall abide by all state rules and laws regarding waters of the state including but not limited to 15A NCAC 2B .0230 and .0231, 15A NCAC 2H .0500, 15A NCAC 2H .1300, and Sections 401 and 404 of the Federal Water Pollution Control Act.
- C. Buildings and other features that require grading and construction shall be set back at least ten feet from the edge of the riparian buffer.
- D. Any use authorized by this section shall be designed, constructed and maintained to minimize the amount of intrusion into the riparian buffer and to minimize clearing, grading, erosion, water quality degradation, and damage to vegetation.
- E. Where any use involves temporary land clearing, revegetation shall occur pursuant to an approved vegetation plan. For Zone A, such plan shall include trees as specified under paragraph 9.2.3B.5, Mixing of Tree Species, and the Durham Landscape Guidelines, planted at a density sufficient to provide 320 trees per acre at maturity

with at least 50% of those trees having the potential of attaining a two and a half inch or greater dbh within seven years.

F. Use Category Requirements.

- 1. Exempt.** An exempt use may occur without authorization provided it adheres to the limitations contained in the Table of Uses below. In addition, an exempt use shall be designed, constructed, maintained and monitored to minimize soil disturbance and maximize water quality protection.
- 2. Allowable.** An allowable use requires written authorization from the North Carolina Division of Water Quality, City, or County as appropriate and may occur following a finding of “no practical alternatives” and issuance of an Authorization Certificate pursuant to paragraph 8.5.11, No Practical Alternatives/Authorization Certificate.
- 3. Allowable with Mitigation.** An allowable with mitigation use requires written authorization from the North Carolina Division of Water Quality, City, or County as appropriate and may occur following a finding of “no practical alternatives” and issuance of an Authorization Certificate pursuant to paragraph 8.5.11, No Practical Alternatives/Authorization Certificate, and approval of a mitigation strategy pursuant to paragraph 8.5.12, Mitigation. An allowable with mitigation use also requires a major site plan pursuant to Sec. 3.7, Site Plan Review.

G. Table of Uses. The following table sets out potential new uses within the riparian buffer, or outside of the buffer with impacts upon the buffer, and categorizes them as exempt, allowable, or allowable with mitigation. The requirements for each category are contained in paragraph F, Use Category Requirements, above. All uses not categorized as exempt, allowable, or allowable with mitigation are prohibited and may not occur within the riparian buffer or outside of the riparian buffer with impacts on the buffer unless a variance is obtained pursuant to paragraph 8.5.13, Variances. Uses include construction, monitoring, and maintenance activities.

<u>Use</u>	<u>Zone A</u> (Inner)	<u>Zone B</u> (Outer)
<p><u>Key (see Sec. 8.5.10F, Use Category Requirements): E = Exempt; A = Allowable; AM = Allowable with Mitigation; P or not listed = Prohibited; NA = Not applicable</u></p>		
<p><u>Drainage ditches, roadside ditches and stormwater conveyances through riparian buffers:</u></p> <ul style="list-style-type: none"> • <u>New stormwater flows to existing drainage ditches, roadside ditches, and stormwater conveyances provided flows do not alter or result in the need to alter the conveyance and are managed to minimize the sediment, nutrients and other pollution that convey to waterbodies.</u> • <u>Outside of the Neuse River Basin, realignment of existing roadside drainage ditches retaining the design dimensions, provided that no additional travel lanes are added and the minimum required roadway typical section is used based on traffic and safety considerations.</u> • <u>New (or altered if outside of the Neuse River Basin) drainage ditches, roadside ditches and stormwater outfalls provided that a stormwater management facility is installed to control nutrients as directed by the appropriate jurisdiction and attenuate flow before the conveyance discharges through the riparian buffer.</u> • <u>New drainage ditches, roadside ditches and stormwater conveyances applicable to linear projects that do not provide a stormwater management facility due to topography constraints provided that other practicable BMPs are employed.</u> 	<p><u>E</u></p> <p><u>A</u></p> <p><u>A</u></p> <p><u>AM</u></p>	<p><u>E</u></p> <p><u>A</u></p> <p><u>A</u></p> <p><u>AM</u></p>
<p><u>Driveway crossings of streams and other surface waters subject to this section:</u></p> <ul style="list-style-type: none"> • <u>Driveway crossings on single family residential lots that disturb equal to or less than 25 linear feet or 2,500 square feet of riparian buffer.</u> • <u>Driveway crossings on single family residential lots that disturb greater than 25 linear feet or 2,500 square feet of riparian buffer.</u> • <u>In a subdivision that cumulatively disturb equal to or less than 150 linear feet or one-third of an acre of riparian buffer.</u> • <u>In a subdivision that cumulatively disturb greater than 150 linear feet or one-third of an acre of riparian buffer.</u> • <u>Outside of the Neuse River Basin, driveway impacts other than crossing of a stream or other surface waters subject to this section.</u> 	<p><u>A</u></p> <p><u>A</u></p> <p><u>A</u></p> <p><u>AM</u></p> <p><u>AM</u></p>	<p><u>A</u></p> <p><u>A</u></p> <p><u>A</u></p> <p><u>AM</u></p> <p><u>AM</u></p>
<p><u>Fences:</u></p> <ul style="list-style-type: none"> • <u>Fences on single-family lots provided that disturbance is minimized and installation does not result in removal of any tree (or, within the Neuse River Basin, forest vegetation).</u> • <u>Fences on lands other than single-family lots provided that disturbance is minimized and installation does not result in removal of any tree (or, within the Neuse River Basin, forest vegetation).</u> • <u>Outside of the Neuse River Basin, fences provided that disturbance is minimized and installation results in removal of any tree.</u> 	<p><u>P</u></p> <p><u>P</u></p> <p><u>P</u></p>	<p><u>E</u></p> <p><u>A</u></p> <p><u>A</u></p>
<u>Fertilizer application: one-time application only, to establish vegetation.</u>	<u>E</u>	<u>E</u>
<u>Forest harvesting as regulated by the State of North Carolina pursuant to 15A NCAC 02B .0233 and 15A NCAC 02B .0267.</u>	<u>Per State Regulation</u>	<u>Per State Regulation</u>

<u>Use</u>	<u>Zone A</u> (Inner)	<u>Zone B</u> (Outer)
Key (see Sec. 8.5.10F, Use Category Requirements): E = Exempt; A = Allowable; AM = Allowable with Mitigation; P or not listed = Prohibited; NA = Not applicable		
<u>Grading and revegetation in Zone B provided that diffuse flow and the health of existing vegetation in Zone A is not compromised and disturbed areas are stabilized until they are revegetated.</u>	NA	E
<u>Greenway / hiking trails designed, constructed and maintained to maximize nutrient removal and erosion protection, minimize adverse effects on aquatic life and habitat, and protect water quality to the maximum extent practical.</u>	A	A
<u>Historic preservation not covered by another specific use.</u>	E	E
<u>Maintenance access on modified natural streams: a grassed travel way on one side of the water body when less impacting alternatives are not practical. The width and specifications of the travel way shall be only that needed for equipment access and operation. The travel way shall be located to maximize stream shading.</u>	A	A
<u>Mining activities:</u>		
• <u>Mining activities that are covered by the Mining Act provided that new riparian buffers that meet the requirements of this section are established adjacent to the relocated channels.</u>	A	A
• <u>Mining activities that are not covered by the Mining Act OR where new riparian buffers that meet the requirements of this section are not established adjacent to the relocated channels.</u>	AM	AM
• <u>Wastewater or mining dewatering wells with approved NPDES permit.</u>	E	E
<u>Playground equipment:</u>		
• <u>Playground equipment on single family lots that exist as of adoption of this section provided that installation and use does not result in removal of vegetation.</u>	E	E
• <u>Playground equipment installed on lands other than single-family lots or that requires removal of vegetation.</u>	P	A
<u>Within the Neuse River Basin, ponds in natural drainage ways, excluding dry ponds; outside of the Neuse River Basin, ponds created by impounding streams and not used as stormwater BMPs:</u>		
• <u>New ponds provided that a riparian buffer that meets the requirements of this section is established adjacent to the pond.</u>	A	A
• <u>New ponds where a riparian buffer that meets the requirements of this section is NOT established adjacent to the pond.</u>	AM	AM
<u>Protection of existing structures, facilities and stream banks when this requires additional disturbance of the riparian buffer or the stream channel.</u>	A	A
<u>Railroad impacts other than crossings of streams and other surface waters subject to this section.</u>	AM	AM
<u>Railroad crossings of streams and other surface waters subject to this section:</u>		
• <u>Railroad crossings that impact equal to or less than 40 linear feet of riparian buffer.</u>	A	A
• <u>Railroad crossings that impact greater than 40 linear feet but equal to or less than 150 linear feet or one-third of an acre of riparian buffer.</u>	A	A
• <u>Railroad crossings that impact greater than 150 linear feet or one-third of an acre of riparian buffer.</u>	AM	AM

<u>Use</u>	<u>Zone A</u> (Inner)	<u>Zone B</u> (Outer)
Key (see Sec. 8.5.10F, Use Category Requirements): E = Exempt; A = Allowable; AM = Allowable with Mitigation; P or not listed = Prohibited; NA = Not applicable		
Outside of the Neuse River Basin, recreational and accessory structures in Zone B:		
• Sheds and gazebos in Zone B:		
○ Total footprint less than or equal to 150 square feet per lot.	NA	P
○ Total footprint greater than 150 square feet per lot.	NA	P
• Wooden slatted decks and associated steps:		
○ Deck at least eight feet in height and no vegetation removed from Zone A.	NA	A
○ Deck less than eight feet in height or vegetation removed from Zone B.	NA	AM
Removal of previous fill or debris provided that diffuse flow is maintained and vegetation is restored.	A	A
Road impacts other than crossings of streams and other surface waters subject to this section.	P	P
Road crossings of streams and other surface waters subject to this section:		
• Road crossings that impact equal to or less than 40 linear feet of riparian buffer.	A	A
• Road crossings that impact greater than 40 linear feet but equal to or less than 150 linear feet or one-third of an acre of riparian buffer.	A	A
• Road crossings that impact greater than 150 linear feet or one-third of an acre of riparian buffer.	AM	AM
Outside of the Neuse River Basin, road relocation: Relocation of existing private access roads associated with public road projects where necessary for public safety:		
• Less than or equal to 2,500 square feet of buffer impact.	A	A
• Greater than 2,500 square feet of buffer impact.	AM	AM
Scientific studies and stream gauging.	E	E
Within the Neuse River Basin, stormwater management ponds excluding dry ponds:		
• New stormwater management ponds provided that a riparian buffer that meets the requirements of this section is established adjacent to the pond.	A	A
• New stormwater management ponds where a riparian buffer the meets the requirements of this section is not established adjacent to the pond.	AM	AM
Outside of the Neuse River Basin, stormwater BMPs:		
• Wet detention, bioretention, and constructed wetlands in Zone B if diffuse flow of discharge is provided into Zone A.	NA	A
• Wet detention, bioretention, and constructed wetlands in Zone A.	AM	NA
Level spreader filter strips if diffuse flow of discharge is provided into Zone A.	NA	E
Streambank or, outside of the Neuse River Basin, shoreline stabilization.	A	A

<u>Use</u>	<u>Zone A</u> (Inner)	<u>Zone B</u> (Outer)
<p><u>Key (see Sec. 8.5.10F, Use Category Requirements): E = Exempt; A = Allowable; AM = Allowable with Mitigation; P or not listed = Prohibited; NA = Not applicable</u></p>		
<p><u>Temporary roads, provided that the disturbed area is restored to pre-construction topographic and hydrologic conditions immediately after construction is complete and replanted immediately with comparable vegetation, except that tree planting may occur during the dormant season. A one-time application of fertilizer may be used to establish vegetation. At the end of five years the restored buffer shall comply with the restoration criteria of paragraph 8.5.12E, Riparian Buffer Restoration or Enhancement.</u></p> <ul style="list-style-type: none"> • <u>Less than or equal to 2,500 square feet of buffer disturbance and not perpendicular to the stream.</u> • <u>Greater than 2,500 square feet of buffer disturbance and not perpendicular to the stream.</u> • <u>Associated with culvert installation outside of the Neuse River Basin or bridge construction or replacement and not perpendicular to the stream.</u> • <u>Perpendicular to the stream.</u> 	<p>P</p> <p>P</p> <p>P</p> <p>A</p>	<p>A</p> <p>A</p> <p>A</p> <p>A</p>
<p><u>Temporary sediment and erosion control devices, provided that the disturbed area is restored to pre-construction topographic and hydrologic conditions immediately after construction is complete and replanted immediately with comparable vegetation, except that tree planting may occur during the dormant season. A one-time application of fertilizer may be used to establish vegetation. At the end of five years the restored buffer shall comply with the restoration criteria of paragraph 8.5.12E, Riparian Buffer Restoration or Enhancement.</u></p> <ul style="list-style-type: none"> • <u>In Zone B provided ground cover is established within timeframes required by the Sedimentation and Erosion Control Act, vegetation in Zone A is not compromised, and runoff is released as diffuse flow in accordance with this section.</u> • <u>In Zones A and B to control impacts associated with uses approved by the appropriate jurisdiction or that have received a variance, provided that sediment and erosion control for upland areas is addressed to the maximum extent possible, outside the buffer.</u> • <u>In-stream temporary erosion and sediment control measures for work within a stream channel that is authorized under Sections 401 and 404 of the Federal Water Pollution Control Act.</u> • <u>In-stream temporary erosion and sediment control measures for work within a stream channel.</u> 	<p>NA</p> <p>A</p> <p>A</p> <p>A</p>	<p>A</p> <p>A</p> <p>A</p> <p>A</p>
<p><u>Utility, electric, aerial, perpendicular crossings of streams and other surface waters subject to this section:^{2,3,5}</u></p> <ul style="list-style-type: none"> • <u>Disturb equal to or less than 150 linear feet of riparian buffer.</u> • <u>Disturb greater than 150 linear feet of riparian buffer.</u> 	<p>E</p> <p>A</p>	<p>E</p> <p>A</p>
<p><u>Utility, electric, aerial, other than perpendicular crossings:⁵</u></p> <ul style="list-style-type: none"> • <u>Impacts in Zone B.</u> • <u>Impacts in Zone A:^{2,3}</u> 	<p>NA</p> <p>AM</p>	<p>A</p> <p>NA</p>

<u>Use</u>	<u>Zone A</u> (Inner)	<u>Zone B</u> (Outer)
Key (see Sec. 8.5.10F, Use Category Requirements): E = Exempt; A = Allowable; AM = Allowable with Mitigation; P or not listed = Prohibited; NA = Not applicable		
<u>Utility, electric, underground, perpendicular crossings:</u> ^{3,4,5} <ul style="list-style-type: none"> • <u>Disturb less than or equal to 40 linear feet of riparian buffer.</u> • <u>Disturb greater than 40 linear feet of riparian buffer.</u> 	<u>E</u> <u>A</u>	<u>E</u> <u>A</u>
<u>Utility, electric, underground, other than perpendicular crossings:</u> ⁴ <ul style="list-style-type: none"> • <u>Impacts in Zone B.</u> • <u>Impacts in Zone A.</u>¹ 	<u>NA</u> <u>E</u>	<u>E</u> <u>NA</u>
<u>Utility, non-electric, perpendicular crossings of streams and other surface waters subject to this section:</u> ^{3,5} <ul style="list-style-type: none"> • <u>Disturb equal to or less than 40 linear feet of riparian buffer with a maintenance corridor equal to or less than 10 feet in width.</u> • <u>Disturb equal to or less than 40 linear feet of riparian buffer with a maintenance corridor greater than 10 feet in width.</u> • <u>Disturb greater than 40 linear feet but equal to or less than 150 linear feet of riparian buffer with a maintenance corridor equal to or less than 10 feet in width.</u> • <u>Disturb greater than 40 linear feet but equal to or less than 150 linear feet of riparian buffer with a maintenance corridor greater than 10 feet in width.</u> • <u>Disturb greater than 150 linear feet of riparian buffer.</u> 	<u>A</u> <u>A</u> <u>A</u> <u>AM</u> <u>AM</u>	<u>A</u> <u>A</u> <u>A</u> <u>AM</u> <u>AM</u>
<u>Utility, non-electric, other than perpendicular crossings.</u> ^{4,5}	<u>AM</u> ¹	<u>AM</u>
<u>Vegetation management, pursuant to applicable City or County guidelines:</u> <ul style="list-style-type: none"> • <u>Emergency fire control measures provided that topography is restored.</u> • <u>Mowing or harvesting of plant products in Zone B.</u> • <u>Planting vegetation to enhance the riparian buffer.</u> • <u>Pruning forest vegetation provided that the health and function of the forest vegetation is not compromised.</u> • <u>Removal of individual trees that are in danger of causing damage to dwellings, other structures or human life, or outside of the Neuse River Basin, are imminently endangering stability of the streambank.</u> • <u>Outside of the Neuse River Basin, removal of individual trees that are dead, diseased or damaged.</u> • <u>Removal of poison ivy.</u> • <u>Removal of either 1) within the Neuse River Basin, understory nuisance vegetation, or 2) outside of the Neuse River Basin, invasive exotic vegetation, both as defined in:</u> <u>Smith, Cherri L. 1998. Exotic Plant Guidelines. Dept. of Environment and Natural Resources. Division of Parks and Recreation. Raleigh, NC. Guideline #30.</u> 	<u>E</u> <u>NA</u> <u>E</u> <u>E</u> <u>E</u> <u>E</u> <u>E</u> <u>E</u>	<u>E</u> <u>E</u> <u>E</u> <u>E</u> <u>E</u> <u>E</u> <u>E</u> <u>E</u>
<ul style="list-style-type: none"> • <u>Outside of the Neuse River Basin, vehicular access roads leading to water-dependent structures as defined in 15A NCAC 02B .0202, provided they do not cross the surface water and have minimum practicable width not exceeding ten feet.</u> 	<u>A</u>	<u>A</u>
<ul style="list-style-type: none"> • <u>Water dependent structures as defined in 15A NCAC 02B .0202, including their installation, maintenance, use, and removal.</u> 	<u>A</u>	<u>A</u>

<u>Use</u> <u>Key (see Sec. 8.5.10F, Use Category Requirements): E = Exempt; A = Allowable; AM = Allowable with Mitigation; P or not listed = Prohibited; NA = Not applicable</u>	<u>Zone A</u> <u>(Inner)</u>	<u>Zone B</u> <u>(Outer)</u>
<u>Water supply reservoirs:</u> <ul style="list-style-type: none"> • <u>New reservoirs where a riparian buffer that meets the requirements of this section is established adjacent to the reservoir.</u> • <u>New reservoirs where a riparian buffer that meets the requirements of this section is not established adjacent to the reservoir.</u> 	<u>A</u> <u>AM</u>	<u>A</u> <u>AM</u>
<u>Water wells:</u> <ul style="list-style-type: none"> • <u>Single family residential water wells.</u> • <u>All other water wells.</u> 	<u>E</u> <u>A</u>	<u>E</u> <u>A</u>
<u>Wetland, stream and, outside of the Neuse River Basin, buffer restoration:</u> <ul style="list-style-type: none"> • <u>Wetland, stream and buffer restoration that requires NC Division of Water Quality approval for the use of a 401 Water Quality Certification.</u> • <u>Wetland, stream and buffer restoration that does not require Division of Water Quality approval for the use of a 401 Water Quality Certification.</u> 	<u>E</u> <u>A</u>	<u>E</u> <u>A</u>
<u>Outside of the Neuse River Basin, wildlife passage structures</u>	<u>A</u>	<u>A</u>

¹Provided that:

- No heavy equipment is used in Zone A.
- Vegetation in undisturbed portions of the buffer is not compromised.
- Felled trees are removed by chain.
- No permanent felling of trees occurs in protected buffers or streams.
- Stumps are removed only by grinding.
- At the completion of the project the disturbed area is stabilized with native vegetation.
- Zones A and B meet the requirements of Sec. 8.5.4B.2, Buffer Zones, and Sec. 8.5.5, Diffuse Flow Requirements.

²Provided that, in Zone A, all of the following BMPs for overhead utility lines are used. If all of these BMPs are not used, then the overhead utility lines shall require a no practical alternative evaluation.

- A minimum zone of 10 feet wide immediately adjacent to the water body shall be managed such that only vegetation that poses a hazard or has the potential to grow tall enough to interfere with the line is removed.
- Woody vegetation shall be cleared by hand. No land grubbing or grading is allowed.
- Vegetative root systems shall be left intact to maintain the integrity of the soil. Stumps shall remain where trees are cut.
- Riprap shall not be used unless it is necessary to stabilize a tower.
- No fertilizer shall be used other than a one-time application to re-establish vegetation.
- Construction activities shall minimize the removal of woody vegetation, the extent of the disturbed area, and the time in which areas remain in a disturbed state.
- Active measures shall be taken after construction and during routine maintenance to ensure diffuse flow of stormwater through the buffer.
- In wetlands, mats shall be utilized to minimize soil disturbance.

³Provided that poles or aerial infrastructure, including towers, shall not be installed within 10 feet of a water body absent a no practical alternative evaluation.

⁴Provided that, in Zone A, all of the following BMPs for underground utility lines are used. If all of these BMPs are not used, then the underground utility line shall require a no practical alternative evaluation.

- Woody vegetation shall be cleared by hand. No land grubbing or grading is allowed.
- Vegetative root systems shall be left intact to maintain the integrity of the soil. Stumps shall remain, except in the trench where trees are cut.
- Underground cables shall be installed by vibratory plow or trenching.
- The trench shall be backfilled with the excavated soil material immediately following cable installation.
- No fertilizer shall be used other than a one-time application to re-establish vegetation.
- Construction activities shall minimize the removal of woody vegetation, the extent of the disturbed area, and the time in which areas remain in a disturbed state.
- Active measures shall be taken upon completion of construction and during routine maintenance to ensure diffuse flow of stormwater through the buffer.
- In wetlands, mats shall be utilized to minimize soil disturbance.

⁵Perpendicular crossings are those that intersect the surface water at an angle between 75 degrees and 105 degrees.

8.5.11 No Practical Alternatives/Authorization Certificate

A. A person who wishes to undertake a use designated as allowable or allowable with mitigation shall first submit a request for a “no practical alternatives” determination. Within the Neuse River Basin, the request shall be submitted to the North Carolina Division of Water Quality (Division). Outside of the Neuse River Basin, the request shall be submitted to the City or County as appropriate. In the request, the applicant shall certify that the project meets all of the following criteria:

- 1.** The basic project purpose cannot be practically accomplished to better minimize disturbance, preserve aquatic life and habitat, and protect water quality;
- 2.** The use cannot practically be reduced in size or density, reconfigured or redesigned to better minimize disturbance, preserve aquatic life and habitat, and protect water quality; and
- 3.** Best management practices shall be used if necessary to minimize disturbance, preserve aquatic life and habitat, and protect water quality.

B. The applicant shall also submit at least the following information:

- 1.** The name, address and phone number of the applicant;
- 2.** The nature of the activity to be conducted by the applicant;
- 3.** The location of the activity, including the jurisdiction;
- 4.** A map of sufficient detail to accurately delineate the boundaries of the land to be utilized in carrying out the activity, the location and dimensions of the riparian buffers, and the location and dimensions of any disturbance in riparian buffers associated with the activity;
- 5.** An explanation of why the activity cannot be practically accomplished, reduced or reconfigured to better minimize disturbance to the riparian buffer, preserve aquatic life and habitat and protect water quality; and

6. Best management practices proposed to control the impacts associated with the activity.

Outside of the Neuse River Basin, additional information may be required by the City or County at its discretion.

- C. Within 60 days of a complete submission, the appropriate jurisdiction (the Division acting pursuant to 15 NCAC 02B .0233 (8)) shall review the entire project and make a finding of fact as to whether the criteria in paragraph 1 above have been met. If they have, “no practical alternatives” has been established and the jurisdiction shall issue an Authorization Certificate. Failure to act within 60 days shall be construed as a finding of “no practical alternatives” and an Authorization Certificate shall be issued to the applicant. Outside of the Neuse River Basin, however, such 60-day deadline may be extended if one of the following occurs:
 1. The applicant agrees, in writing, to a longer period;
 2. The jurisdiction determines that the applicant requires an additional reasonable period of time in which to furnish requested information the jurisdiction deems necessary to its decision; or
 3. The final decision is to be made pursuant to a public hearing.
- D. The appropriate jurisdiction may attach conditions to an Authorization Certificate that support the purpose, spirit and intent of the state riparian buffer protection program and/or this section.
- E. Outside of the Neuse River Basin, the Authorization Certificate shall be denied if the applicant refuses access to its records or premises for the purposes of gathering information the appropriate jurisdiction deems necessary to its decision or if the jurisdiction determines that the applicant has failed to furnish requested information the jurisdiction deems necessary to its decision within the 60-day period or an additional period as authorized under paragraph C.2 above.
- F. Despite the provisions of Section 2.4, Board of Adjustment, appeals from Authorization Certificate determinations shall be to the Division Director, c/o the 401 Oversight Express Permitting Unit, or its successor, in writing. The Director’s decision is subject to review as provided in Articles 3 and 4 of G.S. 150B.

8.5.12 Mitigation

Mitigation is required where: 1) a person wishes to undertake a use designated as allowable with mitigation and has obtained a “no practical alternatives” determination; and 2) a person is required to perform mitigation as a condition of variance approval under this section. Within the Neuse River Basin, the proposal shall be submitted to the North Carolina Division of Water Quality (Division), which shall proceed pursuant to 15A NCAC 02B .0242. Outside of the Neuse River Basin, the proposal shall be submitted to the City or County as appropriate, which shall proceed pursuant to this section as authorized under 15A NCAC 02B .0268.

The appropriate jurisdiction (the Division acting pursuant to 15 NCAC 02B .0242) shall issue a mitigation approval upon determining that a proposal meets the requirements of this section. Within the Neuse River Basin, the approval shall specify the required area and location of mitigation. Outside of the Neuse River Basin, the approval shall identify at a minimum the option chosen, the required and proposed areas, and the mitigation location or offset payment amount as applicable. As stated in Sec. 8.5.2, Applicability, compliance with this entire section is required even where State standards are less stringent. Within the Neuse River Basin, final review by the City or County shall occur after any State action is completed.

A. Mitigation Options. The mitigation requirement may be met through one of the following options:

1. Participation in a private compensatory mitigation bank in the same hydrologic area, as defined in NCGS 143.214(11), as the proposed impact that is approved by the NC Department of Environment and Natural Resources;
2. Payment of a compensatory mitigation fee to the Riparian Buffer Restoration Fund pursuant to 15A NCAC 02B .0269 contingent upon acceptance of payments by the North Carolina Ecosystem Enhancement Program. This option is available to a non-government applicant only if option 1 is not available;
3. Donation of real property or of an interest in real property pursuant to paragraph D, Donation of Real Property, below to satisfy a compensatory mitigation fee in whole or in part; or
4. Restoration or enhancement of a non-forested riparian buffer pursuant to paragraph E, Riparian Buffer Restoration or Enhancement, below.
5. Construction of an alternative measure that reduces nutrient loading as well as or better than the riparian buffer that is lost in the same river basin as the riparian buffer that is lost and that is approved by the Division.

B. Mitigation Area. The appropriate jurisdiction shall determine the required area of mitigation as follows:

1. Add the following areas to determine the impacts in square feet to each zone of the riparian buffer:
 - a. The area of the footprint of the use causing the impact to the riparian buffer;
 - b. The area of the boundary of any clearing and grading activities within the riparian buffer necessary to accommodate the use; and
 - c. The area of any ongoing maintenance corridors within the riparian buffer associated with the use; and

2. Apply the following multipliers to the impacts determined in paragraph 1 to each zone of the riparian buffer:
 - a. Impacts to Zone A of the riparian buffer shall be multiplied by three;
 - b. Impacts to Zone B of the riparian buffer shall be multiplied by one and one-half; and
 - c. Impacts to wetlands within Zones 1 and 2 of the riparian buffer that are subject to mitigation under 15A NCAC 2H .0506 shall comply with the mitigation ratios in 15A NCAC 2H .0506.

C. Mitigation Location

1. Within the Falls Reservoir Watershed, mitigation shall be located within the Upper Falls Watershed, as defined in 15A NCAC 2B.0275 and .0276, and the same distance from, or closer to, the Upper Falls Reservoir, as defined in 15A NCAC 2B.0275 and .0276, as the proposed impact, and as close to the location of the impact as feasible. Alternatively, mitigation may be located anywhere within the Upper Falls Watershed provided that the mitigation proposal accounts for differences in delivery of nutrients to the Upper Falls Watershed resulting from differences between the locations of the buffer impact and mitigation.
2. Within the Jordan Reservoir Watershed, mitigation shall be located within the same subwatershed, as defined in 15A NCAC 02B.0262, and the same distance from, or closer to, the reservoir as the proposed impact, and as close to the location of the impact as feasible. Alternatively, the applicant may propose mitigation anywhere within the same subwatershed, as defined in 15A NCAC 02B.0262, provided that the mitigation proposal accounts for differences in delivery of nutrients to the affected arm of the reservoir resulting from differences between the locations of the buffer impact and mitigation.
3. In any location, mitigation of riparian buffer loss in the watershed of a drinking water supply shall be performed in the watershed of that drinking water supply and as may be further limited by the North Carolina Environmental Management Commission.

Additional location requirements for the property donation option are enumerated in paragraph D, Donation of Property, below.

D. Donation of Property

1. Donation of real property interests that meet the requirements listed below may partially or fully satisfy payment of a compensatory mitigation fee to the Riparian Buffer Restoration Fund, calculated pursuant to 15A NCAC 02B .0269. The value of the property interest shall be determined by an appraisal performed in accordance with paragraph 4 below. The donation shall satisfy the

mitigation requirement if the appraised value of the donated property interest is equal to or greater than the required fee. If the appraised value of the donated property interest is less than the required fee, the applicant shall pay the balance.

2. A conservation easement shall be accepted only if it is granted in perpetuity.
3. Any property interest shall be accepted only if it meets all of the following requirements:
 - a. In addition to the location requirements of paragraph C, Mitigation Location, above, the property shall be located within an area that is identified as a priority for restoration in, or is otherwise consistent with the goals of, the Division's *Basinwide Wetlands and Riparian Restoration Plan* (within the Neuse River Basin) or its *Basinwide Wetlands and Riparian Restoration Plan for the Cape Fear River Basin* (outside of the Neuse River Basin), both developed pursuant to NCGS 143-214.10;
 - b. The property shall contain riparian buffers not currently protected by the State's riparian buffer protection program that are in need of restoration as defined in paragraph E.4 below;
 - c. The restorable riparian buffer on the property shall have a minimum length of 1000 linear feet along a surface water and a minimum width of 50 feet measured horizontally on a line perpendicular to the surface water;
 - d. The size of the restorable riparian buffer on the property shall equal or exceed the area of mitigation responsibility determined under paragraph B above;
 - e. Outside of the Neuse River Basin, restoration shall not require removal of man-made structures or infrastructure. Within the Neuse River Basin, the property shall not require excessive measures for successful restoration, such as removal of structures or infrastructure, and restoration of the property shall be fully capable of offsetting the adverse impacts of the requested use;
 - f. The property shall be suitable to be successfully restored, based on existing hydrology, soils, and vegetation;
 - g. The estimated cost of restoring and maintaining the property shall not exceed the value of the property minus site identification and transaction costs;
 - h. The property shall not contain any building, structure, object, site, or district that is listed in the National Register of Historic Places established pursuant to Public Law 89-665, 16 U.S.C. 470 as amended;
 - i. The property shall not contain any hazardous substance or solid waste;
 - j. The property shall not contain structures or materials that present health or safety problems to the general public. If wells, septic, water or sewer connections exist, they shall be filled, remediated or closed at the expense of the applicant or donor in accordance with state and local health and safety regulations;

- k. The property and adjacent properties shall not have prior, current, or known future land use that would inhibit the function of the restoration effort; and
 - l. The property shall not have any encumbrances or conditions on the transfer of the property interests.
4. At the expense of the applicant or donor, the following information shall be submitted to the appropriate jurisdiction with any proposal for donation or dedication of interest in real property:
- a. Documentation that the property meets the requirements laid out in paragraph E.3 below;
 - b. US Geological Survey 1:24,000 (7.5 minute) scale topographic map, county tax map, USDA Natural Resource Conservation Service County Soil Survey Map, and county road map showing the location of the property along with information on existing site conditions, vegetation types, and existing structures and easements;
 - c. A current property survey performed in accordance with the procedures of the North Carolina Department of Administration, State Property Office as identified by the State Board of Registration for Professional Engineers and Land Surveyors in "Standards of Practice for Land Surveying in North Carolina";
 - d. A current appraisal of the value of the property performed in accordance with the procedures of the North Carolina Department of Administration, State Property Office as identified by the Appraisal Board in the "Uniform Standards of Professional North Carolina Appraisal Practice"; and
 - e. A title certificate.

E. Riparian Buffer Restoration or Enhancement. Mitigation through riparian buffer restoration or enhancement shall meet the following requirements:

- 1. The applicant may restore or enhance a non-forested riparian buffer if either of the following applies:
 - a. The area of riparian buffer restoration is equal to the required area of mitigation determined pursuant to paragraph B, Mitigation Area, above; or
 - b. The area of riparian buffer enhancement is three times larger than the required area of mitigation determined pursuant to paragraph B, Mitigation Area, above;
- 2. The location of the riparian buffer restoration or enhancement shall comply with the requirements of paragraph C, Mitigation Location, above;
- 3. The riparian buffer restoration or enhancement site shall have a minimum width of 50 feet measured horizontally on a line perpendicular to a vertical line marking the top of the bank for a stream or the normal water level for a pond, lake, or reservoir;

4. Outside of the Neuse River Basin, enhancement and restoration shall each have the objective of establishing a forested riparian buffer. Enhancement shall be distinguished from restoration based on existing buffer conditions. Where existing trees are sparse, meaning greater than or equal to 100 trees per acre but less than 200 trees per acre, a buffer shall be enhanced. Where existing woody vegetation is absent, meaning less than 100 trees per acre, a buffer shall be restored;
5. The applicant shall first receive an Authorization Certificate for the proposed use according to the requirements of paragraph 8.5.11, No Practical Alternatives/Authorization Certificate. The applicant shall then submit a restoration or enhancement plan to the City or County as appropriate. The restoration or enhancement plan shall contain the following:
 - a. A map of the proposed restoration or enhancement site;
 - b. A vegetation plan. The vegetation plan shall include trees as specified under paragraph 9.2.3B.5, Mixing of Tree Species, and the Durham Landscape Guidelines, planted at a density sufficient to provide 320 trees per acre at maturity with at least 50% of those trees having the potential of attaining a two and a half inch or greater dbh within seven years;
 - c. A grading plan. The site shall be graded in a manner to ensure diffuse flow through the riparian buffer;
 - d. A fertilization plan; and
 - e. An implementation schedule;
6. Within one year after restoration or enhancement plan approval, the applicant shall present proof to the appropriate jurisdiction that the riparian buffer has been restored or enhanced. If proof is not presented within this timeframe, the applicant shall be in violation of both the State and local riparian buffer protection programs;
7. The mitigation area shall be placed under a perpetual conservation easement that provides for protection of the property's nutrient removal functions;
8. The applicant shall submit annual reports for a period of five years after the restoration or enhancement showing that the trees planted have survived and that diffuse flow through the riparian buffer has been maintained. The applicant shall replace trees that do not survive and restore diffuse flow if needed during that five-year period.

8.5.13 Variances

A person who wishes to undertake a prohibited use shall first submit a request for a minor or major variance to the appropriate jurisdiction as stated below. A minor variance is required for any activity that impacts only Zone B of a riparian buffer. A major variance is required for any activity that impacts any portion of Zone A or any portions of both Zones A and B of a riparian buffer. Such variances are separate from variances authorized under Sec. 3.15, Variance.

A person who wishes to undertake a prohibited use shall first submit a request for a minor or major variance to the appropriate jurisdiction as stated below. A minor variance is required for any activity that does not require a major variance. A major variance is required for any activity that impacts any portion of the inner 30 feet of Zone A of a riparian buffer. Such variances are separate from variances authorized under Sec. 3.15, Variance.

A. Within the Neuse River Basin

- 1. Minor Variance.** Pursuant to 15 NCAC 02B .0233 (9), a minor variance request shall be submitted to the North Carolina Division of Water Quality (Division) for review and decision. The Division may attach conditions to approval that support the purpose, spirit and intent of the riparian buffer protection program. Appeal from the Division decision shall be to the Office of Administrative Hearings.
- 2. Major Variance.** Pursuant to 15 NCAC 02B .0233 (9)(c), a major variance request shall be submitted to the Division for initial review. If the Division determines that the request meets the requirements of paragraph 3, Variance Requirements, below, it shall submit preliminary findings to the NC Environmental Management Commission c/o the Division of Water Quality, 401 Oversight Express Permitting Unit, or its successor. Within 90 days after receipt by the Director of a complete application, the Commission shall approve, approve with conditions or stipulations, or deny the request. Upon and in accordance with the Commission's decision, the Division shall issue a final decision granting, granting subject to conditions or stipulations, or denying the major variance. Appeal from either the initial Division determination or the Commission decision shall be to the Office of Administrative Hearings.
- 3. Variance Requirements.** Pursuant to 15 NCAC 02B .0233 (9)(a), the Division shall make a finding of fact as to whether the following requirements have been met:
 - a.** There are practical difficulties or unnecessary hardships that prevent compliance with the strict letter of the riparian buffer protection requirements; Practical difficulties or unnecessary hardships shall be evaluated in accordance with the following:
 - (1)** If the applicant complies with the provisions of this section, he/she can secure no reasonable return from, nor make reasonable use of, his/her property. Merely proving that the variance would permit a greater profit from the property shall not be considered adequate justification for a variance. Moreover, the Division shall consider whether the variance is the minimum possible deviation from the

terms of this section that shall make reasonable use of the property possible;

- (2) The hardship results from application of this section to the property rather than from other factors such as deed restrictions or other hardship;
- (3) The hardship is due to the physical nature of the applicant's property, such as its size, shape, or topography, which is different from that of neighboring property;
- (4) The applicant did not cause the hardship by knowingly or unknowingly violating this section;
- (5) The applicant did not purchase the property after the effective date of 15A NCAC 02B .0233, Neuse River Basin: Nutrient Sensitive Waters Management Strategy: Protection and Maintenance of Existing Riparian Buffers, and then requesting an appeal; and
- (6) The hardship is unique to the applicant's property, rather than the result of conditions that are widespread. If other properties are equally subject to the hardship created in the restriction, then granting a variance would be a special privilege denied to others, and would not promote equal justice;

b. The variance is in harmony with the general purpose and intent of this section and preserves its spirit; and

c. In granting the variance, the public safety and welfare have been assured, water quality has been protected, and substantial justice has been done.

B. Outside of the Neuse River Basin

- 1. **Minor Variance.** A minor variance request shall be submitted to the City or County as appropriate for review and decision. The City or County may attach conditions to approval that support the purpose, spirit and intent of the riparian buffer protection program and this section. Despite the provisions of Section 2.4, Board of Adjustment, appeal from the City or County decision shall be to the Division Director, c/o the 401 Oversight Express Permitting Unit, or its successor. The Director's decision is subject to review as provided in Articles 3 and 4 of G.S. 150B.
- 2. **Major Variance.** A major variance request shall be submitted to the City or County as appropriate for initial review. If the City or County determines that the request meets the requirements of paragraph 3, Variance Requirements, below, it shall submit preliminary findings to the North Carolina Environmental Management Commission c/o the Division of Water Quality, 401 Oversight Express Permitting Unit, or its successor. Within 90 days after receipt by the City or County of a complete application, the Commission approves, approves with conditions and stipulations, or denies the request. Despite the provisions

of Section 2.4, Board of Adjustment, appeal from either the initial City or County determination or the Commission decision shall be to Superior Court.

3. Variance Requirements

The City or County shall make the following three findings of fact in order to determine that the variance requirements are met:

- a. There are practical difficulties or unnecessary hardships that prevent compliance with the riparian buffer protection requirements. The following criteria must all be met in order to make such finding:
 - (1) If the applicant complies with the provisions of this section, he/she can secure no reasonable return from, nor make reasonable use of, his/her property. Merely proving that the variance would permit a greater profit from the property shall not be considered adequate justification for a variance. Moreover, the variance shall be the minimum possible deviation from the terms of this Ordinance that shall make reasonable use of the property possible;
 - (2) The hardship results from application of this section to the property rather than from other factors such as deed restrictions or other hardship;
 - (3) The hardship is due to the physical nature of the applicant's property, such as its size, shape, or topography, such that compliance with provisions of this section would not allow reasonable use of the property;
 - (4) The applicant did not cause the hardship by knowingly or unknowingly violating this Ordinance;
 - (5) The applicant did not purchase the property after the effective date of this Ordinance, and then request a variance; and
 - (6) The hardship is rare or unique to the applicant's property.
- b. The requested variance is in harmony with the general purpose, spirit and intent of the state riparian buffer protection requirements and/or this section; and
- c. In granting the variance, the public safety and welfare have been assured, water quality has been protected, and substantial justice has been done.

SECTION 5

Modify Section 8.6, Water Supply Reservoir Buffer, paragraph 8.6.1, Reservoir Buffer Standards, and paragraph 8.6.2, Buffer Reductions, as set forth in the strikeouts and underlining below.

Sec. 8.6 Water Supply Reservoir Buffer

8.6.1 Reservoir Buffer Standards

- A. A reservoir buffer shall be maintained from the normal pool of ~~at each~~ water supply reservoirs as shown in the table below, except that the buffer ~~around any reservoir~~ requirement of this section shall not apply to land that does not naturally drain to that reservoir. If the land around any reservoir does not naturally drain to that reservoir, the riparian buffer requirements of Sec. 8.5, Riparian Buffer Protection Standards, shall apply.

Reservoir	Buffer Width
Lake Michie	250 feet
Little River Reservoir	250 feet
Jordan Reservoir	250 feet ¹
Falls Reservoir	250 feet ¹

¹ On nonresidential uses, the buffer width shall extend to 1,000 feet in accordance with Sec. 4.11.4, Nonresidential Land Use Restrictions.

- B. Reservoir buffers shall remain in natural undisturbed vegetation, except for intrusions allowed pursuant to Sec. 8.5, Riparian Buffer Protection Standards ~~Sec. 8.5.5, Stream Buffer Use Limitations~~. A riparian reservoir buffer shall be considered Zone A for purposes of that section.

8.6.2 Buffer Reductions

- A. At the request of a property owner, the governing body may reduce the reservoir buffer requirements through the issuance of a Major Special Use Permit, pursuant to Sec. 3.9, Special Use Permit, whenever it determines that:
1. The reservoir buffer would result in exceptional hardship, depriving the property owner of all reasonable use of the property.
 2. The proposed intrusion into the reservoir buffer is the minimum amount necessary to relieve that exceptional hardship.

The maximum reduction permitted is to the total riparian buffer width required under Sec. 8.5, Riparian Buffer Protection Standards, with the entire buffer considered Zone A.

- B. In making its determination, the governing body shall consider topography, erosion potential, and the size of the parcel, in addition to the review factors specified in Sec. 3.9.8, Criteria for Approval or Major and Minor Special Use Permits.

SECTION 6

Modify Section 8.7, Watershed Protection Overlay Standards, paragraph 8.7.2, General Requirements, paragraph E, Riparian Buffers, as set forth in the strikeouts and underlining below.

Sec. 8.7 Watershed Protection Overlay Standards

[Paragraphs 8.7.1 and 8.7.3 through 8.7.5 are omitted.]

8.7.2 General Requirements

[Paragraphs A-D, F and G are omitted.]

E. ~~Stream~~Riparian Buffers

Riparian buffers are required in accordance with Sec. 8.5, Riparian Buffer Protection Standards.

~~Stream buffers subject to the use limitations of Sec. 8.5.5, Stream Buffer Use Limitations, shall apply to all perennial and intermittent streams as defined in Sec. 8.5.2, Types of Stream Buffers, in a Watershed Protection Overlay, with the width of the buffer measured from the top of stream bank perpendicular to the direction of flow as set forth below:~~

Overlay	Perennial Stream Buffer Width	Intermittent Stream Buffer Width
M/LR A	150 feet	50 feet
M/LR B	150 feet	50 feet
F/J A	150 feet	100 feet
F/J B, E-B	100 feet	50 feet High Density Option 100 feet
E A	150 feet	50 feet

SECTION 7

Modify Section 8.9, Wetlands Protection Standards, paragraph 8.9.3, Exemptions from Wetland Buffer Requirements, paragraph 8.9.4, Wetland Buffer Width, and paragraph 8.9.5, Wetland Buffers Use Limitations, as set forth in the strikeouts and underlining below.

Sec. 8.9 Wetlands Protection Standards

8.9.1 Purpose

The primary purpose of the wetlands protection standards is to conserve and maintain natural wetlands in an undisturbed vegetated state in order to provide storage of stormwater runoff, minimize degradation of preserved wetlands from the impacts of adjacent development, improve water quality and preserve plant and wildlife habitat.

8.9.2 Application of Wetlands Protection

The City and County acknowledge the pre-eminence of the Federal and State governments with regard to the identification and regulation of wetlands. Accordingly, the standards contained within this section shall not duplicate the requirements of the US Army Corps of Engineers (the Corps) or the North Carolina Department of Environment and Natural Resources (DENR), Division of Water

Quality (~~Division WQ~~), but shall require the buffering of wetland areas, identified by these agencies, on development plans, site plans, preliminary plats, ~~and final plats,~~ and as otherwise required under Sec. 8.5, Riparian Buffer Protection Standards.

8.9.3 ~~Exemptions from Wetland Buffer~~ Applicability Requirements

- A. ~~The A wetland buffer shall not apply to be required for any wetland approved for dredging or filling under a Section 404 Permit issued by the Corps or a Section 401 Water Quality Certification issued by the DWQ Division.~~
- B. ~~The A wetland buffer shall not apply to be required for wetland areas associated with man-made ponds unconnected to intermittent or perennial streams or to man-made drainage ditches.~~
- C. ~~The wetland buffer shall not apply to any retained wetland area less than one acre in size.~~ A wetland buffer shall be required for any wetland area one acre or greater in size, and for any wetland area smaller than one acre that is adjacent to any riparian buffer required under Sec. 8.5, Riparian Buffer Protection Standards.

8.9.4 Wetland Buffer Width

The wetland buffer shall be provided along the perimeter boundary of the wetland area, ~~and shall be at least 25 feet in width.~~ For a wetland one acre or greater in size that is not adjacent to a riparian buffer required under Sec. 8.5, Riparian Buffer Protection Standards, the riparian wetland buffer shall be at least 50 feet in width and shall be considered Zone A. For a wetland of any size that is adjacent to a riparian buffer required under Sec. 8.5, Riparian Buffer Protection Standards, the riparian wetland buffer shall be the same width and contain the same zone(s) as such riparian buffer.

- ~~B. The approving authority may reduce the wetland buffer to as little as ten feet in width, provided it determines that the proposed development includes site features or will employ construction management techniques to provide at least a comparable level of protection for the wetland area. Such site features and construction management techniques shall include but not be limited to additional grass or revegetated buffers, double silt fencing, diversion ditches with temporary slope drains and application of sod on any slope adjacent to wetlands.~~

8.9.5 ~~Wetland Buffers Use Limitations~~ Standards

Wetland buffers shall be governed by Sec. 8.5, Riparian Buffer Protection Standards, except where it may conflict with this section, in which case this section applies.

~~Wetland buffers shall remain in natural undisturbed vegetation, except as provided below.~~

- ~~A. Crossings by streets, driveways, culverts, railroads, recreational features, intakes, docks, utilities, bridges or other facilities shall be allowed. Stormwater control facilities and wetlands constructed for mitigation purposes shall be allowed in wetland buffers.~~

- ~~B. Wetland buffers may be used for passive recreational activities, such as walking and bicycling trails, provided that service facilities for such activities, including but not limited to parking, picnicking and sanitary facilities, are located outside of the wetland buffer. Water oriented recreational facilities, such as boat or fishing piers located within wetland buffer areas, shall require a use permit from the Board of Adjustment pursuant to Sec. 3.8, Sedimentation and Erosion Control.~~
- ~~C. Land within the wetland buffer shall not serve to meet minimum lot size requirements except in the Rural Tier and on properties zoned RR or RS 20, in the Suburban Tier, where at least 50% of the lot is outside of the wetland buffer or wetland.~~
- ~~D. Any use allowed by this section shall be designed and constructed to minimize the amount of intrusion into the wetland buffer and to minimize clearing, grading, erosion and water quality degradation.~~

SECTION 8

Modify Section 15.1, Violations; Violators, paragraphs, as set forth in the strikeouts and underlining below.

Sec. 15.1 Violations; Violators

15.1.1 Applicability

Sec. 15.5, Sedimentation and Erosion Control Enforcement and Penalties, shall apply to enforcement provisions of this Ordinance and state statute or regulation governing sedimentation and erosion control. Sec. 15.6, Floodplain and Flood Damage Protection Enforcements and Penalties, shall apply to enforcement of provisions of this Ordinance and state statute or regulation governing floodplain and flood damage protection. Sec. 15.8, Riparian Buffer Protection Enforcement, shall apply to enforcement of provisions of this Ordinance and state statute or regulation governing riparian buffers, including reservoir and wetland buffers. The provisions of those sections, where applicable, shall supersede conflicting provisions of this Article.

SECTION 9

Add a new Section 15.8, Riparian Buffer Protection Compliance and Enforcement, as set forth in the underlining below.

Sec. 15.8 Riparian Buffer Protection Enforcement

15.8.1 Applicability

The City or County as appropriate shall conduct enforcement pursuant to this section, except where enforcement of an ordinance violation is reserved to the State under this Ordinance and/or State law.

15.8.2 Violation

In accordance with paragraph 15.1.2, Violation, a violation under this section occurs where a person fails to comply with any riparian buffer requirement of this Ordinance, which are contained in Sec. 8.5, Riparian Buffer Protection Standards, Sec. 8.6, Water Supply Reservoir Buffer, Sec. 8.7, Watershed Protection Overlay

Standards, Sec. 8.9, Wetlands Protection Standards, Sec. 15.8, Riparian Buffer Protection Enforcement, and any rule, authorization, approval, or order adopted or issued pursuant to those sections.

15.8.3 Inspections

- A.** Agents or employees authorized by the City or County as appropriate may inspect riparian buffers, including reservoir and wetland buffers, to ensure compliance with this Ordinance. Such authorized agents or employees shall have the power to conduct such investigations as they may reasonably deem necessary to carry out their duties, and for this purpose to enter at reasonable times upon any property, public or private, for the purpose of inspecting any riparian buffer or conducting a related investigation.
- B.** No person shall willfully resist, delay, or obstruct an authorized agent or employee while that person is lawfully inspecting or attempting to inspect a riparian buffer under this section, nor shall any person interfere with an authorized agent or employee while he or she is in the process of carrying out other official duties.
- C.** Notice of the right to inspect shall be included in any riparian buffer approval.

15.8.4 Power to Require Statements

The City or County as appropriate shall have the power to require written statements, or the filing of reports under oath, with respect to riparian buffers.

15.8.5 Notice of Violation

If it is determined that a person has violated any riparian buffer requirement of this Ordinance, a notice of violation shall be issued and served upon that person pursuant to paragraph 15.2.1, Notice of Violation. As stated therein, the notice shall include remedial measures, which may include revegetation, to be performed, and a deadline for compliance if immediate compliance is not required. The notice shall be an administrative determination subject to appeal under paragraph 15.8.7, Appeal.

15.8.6 Civil Penalties

- A. Penalties.** Any person who violates any riparian buffer requirement of this Ordinance shall be subject to a civil penalty. The civil penalty for a violation may be a maximum of ten thousand dollars (\$10,000) per day. For a continuing violation, the civil penalty may be a maximum of twenty-five thousand dollars (\$25,000) per day. Each day of a continuing violation shall constitute a separate violation.
- B. Notice.** The City or County as appropriate shall issue and serve notice of the civil penalty pursuant to paragraph 15.4.3, Notice, and shall also provide information on the basis for the penalty. The notice shall be an administrative determination subject to appeal under paragraph 15.8.7, Appeal.

C. Payment. A civil penalty is due when the violator is served with notice of the civil penalty. If the penalty is not paid within 30 days of service, or, if appealed, within 30 days of the conclusion of any appeals, the City or County as appropriate may institute a civil action to recover the penalty amount.

D. Use. Civil penalties collected pursuant to this section and used to defray the cost of enforcement or conduct any remediation related to the violation(s) shall be credited to the general fund of the City or County as appropriate as nontax revenue.

15.8.7 Appeal

Appeal from a notice of violation issued under paragraph 15.8.5, Notice of Violation, or a notice of civil penalty issued under paragraph 15.8.6, Civil Penalties, shall be to the Durham Board of Adjustment, which shall conduct a hearing and affirm, modify, or revoke the administrative determination. Notice of appeal must be submitted, and the appropriate fee paid, within 30 days of receipt of the notice of violation or notice of civil penalty as appropriate. If notice of appeal is not submitted in a timely manner, the administrative determination shall be final. Appeal from the Board of Adjustment decision shall be to Superior Court.

15.8.8 Injunctive Relief

Whenever there is reasonable cause to believe that any person is violating or may violate the riparian buffer requirements of this Ordinance, the City or County as appropriate may, either before or after the institution of any other action or proceeding authorized by this section, institute an action for injunctive relief pursuant to paragraph 15.3.3, Injunctive Relief in Superior Court. The institution of such action shall not relieve any party to such proceedings from any penalties assessed or obligations otherwise imposed under this section.

15.8.9 Criminal Penalties

Pursuant to NCGS 143-215.6B, any person who violates any riparian buffer requirement of this Ordinance shall be guilty of a crime as follows:

- A.** Negligent violation: Class 2 misdemeanor with a maximum fine of fifteen thousand dollars (\$15,000) per day of violation, and a maximum cumulative total of two hundred thousand dollars (\$200,000) for each 30-day period of a continuing violation;
- B.** Knowing or willful violation: Class I felony with a maximum fine of one hundred thousand dollars (\$100,000) per day of violation, and a maximum cumulative total of five hundred thousand dollars (\$500,000) for each 30-day period of a continuing violation; or
- C.** Knowing violation: Class C felony with a maximum fine of two hundred fifty thousand dollars (\$250,000) per day of violation, and a maximum cumulative total of one million dollars (\$1,000,000) for each 30-day period of a continuing violation.

Commentary: The terms “knowing or willful” as in paragraph B and “knowing” as in paragraph C are explained in NCGS 143-215.6B.

SECTION 10

Modify Article 16, Definitions, Section 16.2, Abbreviations, and Section 16.3, Defined Terms, as set forth in the strikeouts and underlining below.

Sec. 16.2 Abbreviations

DWQ or Division: North Carolina Division of Water Quality

P: Permitted Use, or Prohibited in Sec. 8.5, Riparian Buffer Protection Standards.

Sec. 16.3 Defined Terms

Stream Buffer: A natural or vegetated area adjacent to ~~watercourses~~ a stream through which stormwater runoff flows in a diffuse manner so that the runoff does not become channelized and which provides for the infiltration of runoff and filtering of pollutants.

Stream: means a body of concentrated flowing water in a natural low area or natural channel on the land surface.

Stream, Intermittent: Except under Sec. 8.5, Riparian Buffer Protection Standards, ~~a~~A watercourse that collects surface runoff and is shown as a dashed blue line on the most recent United States Geologic Survey (USGS) 7½-minute quadrangle topographic maps, is shown as an intermittent stream on the most recent US Department of Agriculture (USDA) Soil Survey, or is shown as an intermittent stream on the Natural Resource Conservation Service (NRCS) maps.

Stream, Perennial: Except under Sec. 8.5, Riparian Buffer Protection Standards, ~~a~~A watercourse that collects surface runoff and is shown as a solid blue line on the most recent USGS 7½-minute quadrangle topographic maps, is shown as a perennial stream on maps in the most recent US Department of Agriculture (USDA) Soil Survey, or is shown as a perennial stream on the Natural Resource Conservation Service (NCRS) maps.

SECTION 11

That the Unified Development Ordinance shall be renumbered as necessary to accommodate these changes and clarifications.

SECTION 12

That this amendment of the Unified Development Ordinance shall become effective upon adoption.